

### NTN-SNR at the International Meeting on Green Cars (RIVE)

at Alès on 7 and 8 July

## NTN-SNR and Lazareth present the E-Wazuma, sports and recreational tricycle equipped with electric wheel motors

NTN-SNR and the French manufacturer Lazareth, present E-Wazuma, the electric version of the famous Wazuma sports tricycle at the International Meeting on Green Cars (RIVE) at Alès (30) on 7 July 2015. This project also brings together two other companies of the Rhône-Alpes region. With this prototype, NTN-SNR offers a new showcase to the electric wheel motor technology that it has been developing for 3 years. Each two wheel motors are 30 kW and are integrated into the two rear twin wheels of the tricycle, for a unique performance which is worthy of being classified as a sports car. Furthermore, its considerably higher torque provides remarkable high acceleration. This technology has been first developed on low power vehicles, then on mass-produced compact cars such as the Honda Civic, and now into more powerful platforms with this attractively designed sports vehicle. After implementing this technology on low-power urban vehicles, one of which has already been developed with Lazareth, and on a mass-produced Honda Civic modified with more powerful motors, NTN-SNR has moved into higher gear with this attractively designed sports vehicle.

### An exceptional project, technological showcase of French expertise

NTN-SNR and Lazareth chose the International Meeting on Green Cars held on July 7<sup>th</sup> and 8<sup>th</sup> in Alès (30) to preview the E-Wazuma prototype that was jointly developed. This sports tricycle is equipped with two electric wheel motors located in the rear twin wheels. This project helps to demonstrate the technological expertise of several French companies and especially those of the Rhône-Alpes region:

- **NTN-SNR** (Anney, 74), which has been developing the electric wheel motor for several years and has already received the Automechanika Innovation Award in 2012 for this;

- **Lazareth** (Annecy-le-Vieux, 74), a car and bike manufacturer specialised in creating unique vehicles and micro-series of exceptional vehicles, which created the Wazuma, the design of the sports tricycle with the rear twin-wheels;
- **TYVA ÉNERGIE** (Annonay, 07), for the 500V battery which required special development to be adaptable on the chassis;
- **Viveris Technologies** (Villeurbanne, 69) for the control electronics, crucial for the proper management of the motorisation and accelerations.
- 

Christophe Ulrici, Director, BU OEM Automotive at NTN-SNR, is very pleased about this collaboration: "This new application of electric wheel motors that we have developed shows demonstrates the enormous potential of this innovation and its technological maturity. We have already developed an urban vehicle equipped with 4 kW motors with Lazareth in 2013. It was a formidable challenge to be able to work again with this manufacturer on their iconic vehicle with motors of greater power and achieve this level of performance. "

## Noteworthy Power and performance

### An adapted wheel motor technology

The E-Wazuma tricycle is equipped with two 30 kW electric wheel motors developed by NTN-SNR and runs on a 500 Volts/10 KWh battery. This was developed directly from the Wazuma LR1 model created by Lazareth.

"For a long time I wanted to propose an electric model of Wazuma, thus fulfilling the requirement for an environment-friendly version of this sporty and recreational vehicle. Conventional technologies of central electric motors, too heavy and bulky, were not adapted to this type of chassis. NTN-SNR's wheel motor technology has enabled us to develop this prototype that offers all the sporting qualities that we were looking for," explains Ludovic Lazareth, president of Lazareth auto-moto.

The E-Wazuma today offers performance and road behaviour comparable to the internal combustion version with a slightly lower power. In addition, with an efficiency of more than 90%, the engine provides a torque of 490 N / m well above that of an internal combustion engine for a remarkable and smooth acceleration managed by an extremely accurate electronic control.

### Innovative Li-ion batteries manufactured in France

TYVA ENERGY manufactured the high voltage Li-ion battery (500 V) to power the E-Wazuma. It was able to meet this challenge with the technology of modular and innovative Li-ion batteries it has developed: TYVA MODULOO. The TYVA MODULOO modules integrate the latest generation of NMC Li-ion cells enabling a very high discharge current with reduced weight.

\*\*\*

***NTN-SNR ROULEMENTS** is part of the NTN Corporation which is the 3rd largest manufacturer of bearings in the world. NTN-SNR ROULEMENTS is responsible for the management and development of all NTN Corporation activities in Europe, South America, Africa and the Middle East. Specialising in the manufacture of automotive, industrial and aviation bearings, NTN-SNR ROULEMENTS also offers maintenance services and solutions which allows us to propose a comprehensive offering. NTN-SNR ROULEMENTS employs 4113 people and has 9 production sites in Europe and Brazil and 23 sales offices worldwide.*

---

Press Contact: Carol DONAT- +33 (0) 4 50 65 30 27 – [carol.donat@ntn-snr.fr](mailto:carol.donat@ntn-snr.fr)